

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)
)
Redesignation of the 17.7-19.7 GHz Frequency)
Band, Blanket Licensing of Satellite)
Earth Stations in the 17.7-20.2 GHz and)
27.5-30.0 GHz Frequency Bands,)
and the Allocation of Additional Spectrum)
in the 17.3-17.8 GHz and 24.75-25.25 GHz)
Frequency Bands for Broadcast Satellite-)
Service Use)

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

To: The Commission

REPLY COMMENTS OF SKYBRIDGE L.L.C.

SkyBridge L.L.C. ("SkyBridge"), by its attorneys, submits these reply comments in response to the comments filed in the above-captioned matter. The comments were filed in response to the Commission's Notice of Proposed Rulemaking, FCC 98-235, released September 18, 1998 (the "NPRM").

I. ALLOCATION OF THE 17.3-17.8 GHz AND 24.75-25.25 GHz BANDS FOR BSS

In the NPRM, the Commission proposed to allocate, effective April 1, 2007, the 17.3-17.8 GHz band to the Broadcasting-Satellite Service ("BSS") for downlinks, and the 24.75-25.25 GHz band to the Fixed-Satellite Service ("FSS") for BSS feeder links. In its comments, SkyBridge urged the Commission to revise its proposal for allocation of the 17.3-17.8 GHz band, noting that: (i) the rapid pace of technological development does not allow for an accurate prediction of the most efficient use of this band of spectrum in 2007; (ii) existing BSS systems have not demonstrated either that their channel capacity is inadequate to meet demand, or that

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it will be inadequate by 2007; and (iii) even assuming arguendo that it is rational now to establish an allocation that will not be utilized until 2007, the rush to judgment sought by DirecTV may preclude the shared utilization of this band by other services.^{1/}

DirecTV Enterprises, Inc. ("DirecTV"), the main proponent of the proposed BSS allocation, asserted that the allocation is "essential to accommodate the rapid growth of DBS service in the United States," and thus, according to DirecTV, will serve the public interest by assuring that DBS systems "will operate in an environment free from interference from terrestrial fixed service ('FS') and other satellite or feeder link operations."^{2/} However, DirecTV did not address any of the points made by SkyBridge.

For example, although DirecTV alleged a growing demand for additional BSS capacity, DirecTV did not: (i) identify any current shortage of BSS capacity in the United States (this would be difficult, given that the spectrum currently licensed and available for the BSS is not being fully utilized); (ii) provide any documented forecasts of demand in 2007; or (iii) propose a means for sharing this band with other satellite services or with the terrestrial FS. As discussed in the SkyBridge Comments, the Commission should not allocate the subject spectrum to the BSS without a clear, fact-based demonstration that the public interest would be served by the sort of allocation sought by DirecTV.

^{1/} Comments of SkyBridge L.L.C., filed November 19, 1998, at 3 ("SkyBridge Comments").

^{2/} Comments of DirecTV, filed November 19, 1998, at 2.

Several other commenters objected to the Commission's proposal to allocate spectrum now for BSS operations that cannot begin until 2007. For example, in comments that related primarily to the Commission's proposed allocation of the 24.75-25.25 GHz band to the BSS, Teligent, Inc. ("Teligent"), concluded that "the proposed BSS allocation at this time is wholly unnecessary."^{3/} In support of this conclusion, Teligent pointed out that current technical alternatives could reduce the amount of spectrum needed by the BSS, and that "BSS licensees have failed to demonstrate sufficient consumer demand for DBS to warrant an additional allocation of BSS spectrum at this time."^{4/} Moreover, Teligent pointed out that sharing criteria have not been developed to ensure that concurrent use of the 24.75-25.25 GHz band by the BSS for feeder links and by the FS for current services will be possible.^{5/}

SBC Communications, Inc. ("SBC"), and the Fixed Point-to-Point Communications Section, Wireless Communications Division of the Telecommunications Industry Association (the "Fixed Section"), objected to the Commission's proposed current allocation of the 17.7-17.8 GHz band for BSS downlinks in 2007.^{6/} Both SBC and the Fixed Section pointed out that the technical means for FS and BSS sharing of spectrum in this band have not been fully

^{3/} Comments of Teligent, filed November 19, 1998, at 4.

^{4/} Id.

^{5/} See id. at 8-10.

^{6/} See Comments of SBC, filed November 19, 1998 ("SBC Comments"); Comments of the Fixed Section, filed November 19, 1998 ("Fixed Section Comments").

developed. Until such time as sharing questions can be resolved, SBC and the Fixed Section urged the Commission not to allocate this band to the BSS.^{7/}

SkyBridge supports the comments of Teligent, SBC and the Fixed Section with respect to the 17.3-17.8 GHz band. Put simply, there is ample time before 2007 to study the multifaceted sharing issues identified above and resolve them in a rational, spectrum-efficient manner. Indeed, the Commission has raised some of these issues in a recently-released Notice of Proposed Rulemaking, which proposes amending the Commission's rules to permit non-geostationary orbit ("NGSO") FSS systems to operate co-frequency with GSO and FS systems in the Ku-band.^{8/} Particularly given the absence of any articulated (let alone demonstrated) need to proceed now with an allocation that cannot be utilized until almost a decade from now, DirecTV's desire to rush to judgment appears inexplicable.

II. REDESIGNATION OF THE 17.7-20.2 GHz BANDS

In its comments, SkyBridge strongly supported the Commission's conclusion that sharing among FS stations and certain non-ubiquitous FSS earth stations is possible, as well as the Commission's proposal to permit co-primary use of some bands by both services. In addition, SkyBridge applauded the Commission's proposal to govern earth station deployment in these bands by requiring coordination

^{7/} SBC Comments at 7; Fixed Section Comments at 6.

^{8/} FCC 98-310, ET Docket No. 98-206, released November 24, 1998.

with FS stations, rather than by imposing specific technical constraints on the sort of gateway earth stations that would be permitted to co-exist with FS operations.^{9/}

Most commenters either supported^{10/} or did not challenge the Commission's acknowledgment in the NPRM that "[s]haring between the terrestrial fixed service and . . . non-ubiquitous satellite operations is feasible."^{11/} However, without proffering any serious technical showing or policy rationale that would undermine the Commission's initial conclusions, BellSouth Corporation ("BellSouth") and the Cellular Telecommunications Industry Association ("CTIA") asserted that sharing between non-ubiquitously deployed earth stations and the FS is not possible.^{12/} Although BellSouth did proffer a brief technical paper to attempt to support, inter alia, its claim that the existence of even non-ubiquitous gateway terminals effectively will preclude all future FS growth in the affected band, its technical showing was inadequate to support its overreaching assertion.

^{9/} To the extent that the proposal by AirTouch Communications, Inc. ("AirTouch") to "place express limits on the number of antennas GSO/FSS operators may deploy, or impose enhanced technical limits on their operations (*e.g.*, antenna size, performance standards, power limits, *etc.*)" may be applicable to NGSO FSS systems, SkyBridge opposes the proposal. Comments of AirTouch, filed November 19, 1998, at 13. As SkyBridge noted in its comments, such restrictions are unnecessary and likely would impede the development of new technologies and result in economic inefficiencies.

^{10/} See, *e.g.*, Comments of Comsearch, filed November 19, 1998, at 7 ("Comsearch Comments").

^{11/} NPRM at 12.

^{12/} See Comments of BellSouth, filed November 19, 1998, at 9-10; Comments of CTIA, filed November 18, 1998, at 5-6.

BellSouth's analysis grossly overstates the size and effect of the separation distance required by a gateway earth station. First, the analysis ignores the impact of shielding -- both terrain and man-made. Moreover, it is unlikely that a gateway would be located in an area with a high concentration of existing FS links, as coordination would be difficult. Even assuming arguendo that the size of the gateway separation distance hypothesized by BellSouth were remotely accurate in a practical sense, that would say nothing about the real impact of such a facility on FS deployment.

As Comsearch made clear in its comments, the coordination regime outlined by the Commission "has proven to be ... efficient and effective," as demonstrated by the "tens of thousands of systems successfully engineered during the past 20 years."^{13/} Applying that regime to a limited number of specialized gateway terminals will prove no less effective or efficient.

III. OTHER ISSUES.

A. Lockheed Martin Comments.

SkyBridge opposes two suggestions made by Lockheed Martin Corporation ("Lockheed Martin") with respect to sharing between NGSO FSS and GSO FSS systems. First, SkyBridge opposes, as unnecessary and inefficient, Lockheed Martin's proposal to afford GSO FSS operators coordination priority over operators of NGSO FSS systems in any portion of the 17.7-18.8 GHz band in which

^{13/} Comsearch Comments at 7.

GSO FSS is made secondary.^{14/} There is no rational reason to discriminate between GSO and NGSO systems in a secondary allocation, particularly when no such systems currently are deployed.

The fact that hypothetical GSO systems might previously have enjoyed primary status in the band does not compel the conclusion that, if the public interest is best served by reducing these GSO systems to secondary status, all others authorized to use the band should be reduced to tertiary status. Lockheed Martin has made no showing that its legitimate interests cannot be adequately protected while being co-secondary with NGSO systems; certainly, there is no public interest that would inherently favor one over the other, as reflected by the actions of the 1998 ITU Plenipotentiary Conference.^{15/}

Second, Lockheed Martin claimed that application of the uplink power density envelope proposed for GSO FSS earth terminals in the GSO plane to directions other than the GSO arc would “place an undue burden on GSO FSS

^{14/} Comments of Lockheed Martin, filed November 19, 1998, at 10 (“Lockheed Martin Comments”).

^{15/} The recently concluded International Telecommunication Union Plenipotentiary Conference (Minneapolis, 1998), amended the Constitution and Convention of the ITU to ensure that the use of satellite orbits other than geostationary is considered of equal importance as geostationary satellite orbits for the purpose of allocation, coordination and use of frequency bands associated with such orbits. See Instrument Amending the Constitution of the International Telecommunication Union (Geneva, 1992) as amended by the Plenipotentiary Conference (Kyoto, 1994), (Amendments Adopted by the Plenipotentiary Conference (Minneapolis, 1998)), Article 1, paragraph 11a) and 12b), and Article 12, paragraph (1), and Instrument Amending the Convention of the ITU (Geneva, 1992) as amended by the Plenipotentiary Conference (Kyoto, 1994), (Amendments Adopted by the Plenipotentiary Conference (Minneapolis, 1998)), Article 11, paragraph 2.(3)a) and Article 12, paragraph (3 ter) a).

licensees” by possibly increasing the cost and complexity of GSO FSS user terminals.^{16/} Lockheed Martin did not provide any technical support for its claims regarding increased costs. Particularly where no systems have yet to be deployed (in some cases, even fully designed), it borders on the frivolous to claim that such a requirement -- which could significantly increase the efficiency of the use of the band -- is too onerous to contemplate.

B. TRW Comments.

TRW, Inc. (“TRW”), proposes to subject GSO FSS and NGSO FSS systems to the same PFD and off-axis EIRP density limits when both services are either co-primary or co-secondary in the Ka-band.^{17/} TRW did not offer any technical support for its proposal. Instead, TRW’s sole rationale for this proposal appears to be that, “[u]nless equivalent standards are applied to both types of FSS systems, an NGSO/FSS operator will be able to provide a higher data rate and greater link availability than GSO/FSS systems, while also being able to serve smaller user terminals.”^{18/} As explained further by TRW, this “would cause a competitive disparity.”^{19/}

It is one thing for the Commission to impose reasonable operational limits on certain systems in order to ensure the operational integrity of other systems.

^{16/} Lockheed Martin Comments at 15.

^{17/} Comments of TRW, filed November 19, 1998, at 9.

^{18/} Id.

^{19/} Id.

It is quite another thing -- and clearly contrary to the public interest -- to constrain artificially the capacity of NGSO systems, solely to compensate for the relative shortcomings of GSO technology. There are some services for which GSO architecture is superior, and some for which NGSO is superior.^{20/} The Commission has always rejected pleas such as TRW's, which call for the hamstringing of one technology for the competitive benefit of another. The respective strengths and weaknesses of the various technologies, and the associated benefits for the public, should be tested solely in the marketplace.

IV. CONCLUSION

Allocation of the 17.3-17.8 GHz band to BSS downlinks at this time is premature. Such a rule change may inhibit efficient spectrum utilization, by leading to an interference situation that cannot be mitigated by coordination. Given that this allocation will not be effective until 2007, there is ample opportunity thoroughly to study these sharing issues, which in fact are the subject of on-going Commission proceedings.

^{20/} It is notable that TRW did not suggest, as a pro-competitive quid-pro-quo for artificially constraining, e.g., NGSO data rates, the GSO systems be prohibited from deploying transponder footprints wider than, e.g., 350 km diameter.

SkyBridge supports the Commission's recognition of the feasibility of sharing between FS stations and non-ubiquitous satellite earth station "gateways." In implementing this policy, SkyBridge urges the Commission to maintain a flexible approach, in order to ensure that, while protecting FS expansion, unnecessary constraints are not placed upon satellite operators.

Respectfully submitted,

SKYBRIDGE L.L.C.

By:



Phillip L. Spector
Diane C. Gaylor
Kira A. Merski

PAUL, WEISS, RIFKIND, WHARTON & GARRISON
1615 L Street, N.W., Suite 1300
Washington, D.C. 20036
Telephone: 202-223-7300
Facsimile: 202-223-7420

Its Attorneys

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